



The State of New Hampshire  
*Department of Environmental Services*

Michael P. Nolin  
Commissioner



**AGGREGATED PRECIPITATION DATA for N.H.  
DROUGHT MANAGEMENT AREAS**

	Actual Rainfall (inches)	Normal Rainfall (inches)	Deviation from Normal (inches)	Percent of Normal
<b><u>Coastal Drainage:</u></b> Rockingham, Strafford counties				
four month	23.98	13.46	10.52	178%
six month	34.74	16.54	14.86	210%
nine month	47.60	29.38	18.22	162%
twelve month	59.52	40.62	18.90	147%
<b><u>Southern Interior:</u></b> Belknap, Hillsborough, Merrimack counties				
four month	23.41	13.73	9.68	170%
six month	32.28	20.36	11.92	159%
nine month	43.16	29.96	13.20	144%
twelve month	52.88	41.08	11.80	129%
<b><u>South Western:</u></b> Cheshire, Sullivan counties				
four month	25.62	13.86	11.76	185%
six month	33.98	20.76	13.22	164%
nine month	44.15	30.40	13.75	145%
twelve month	52.81	41.18	11.63	128%
<b><u>White Mountain:</u></b> Carroll, Grafton counties				
four month	22.40	14.28	8.12	157%
six month	31.77	31.77	10.51	100%
nine month	40.66	30.20	10.46	135%
twelve month	50.22	40.66	9.56	124%
<b><u>North Country:</u></b> Coos county				
four month	25.42	14.84	10.58	171%
six month	35.83	22.32	13.51	161%
nine month	45.73	30.60	15.13	149%
twelve month	56.62	40.24	16.38	141%

four month period : July 2005 - October 2005  
six month period : May 2005 - October 2005  
nine month period : February 2005 - October 2005  
twelve month period: November 2004 - October 2005

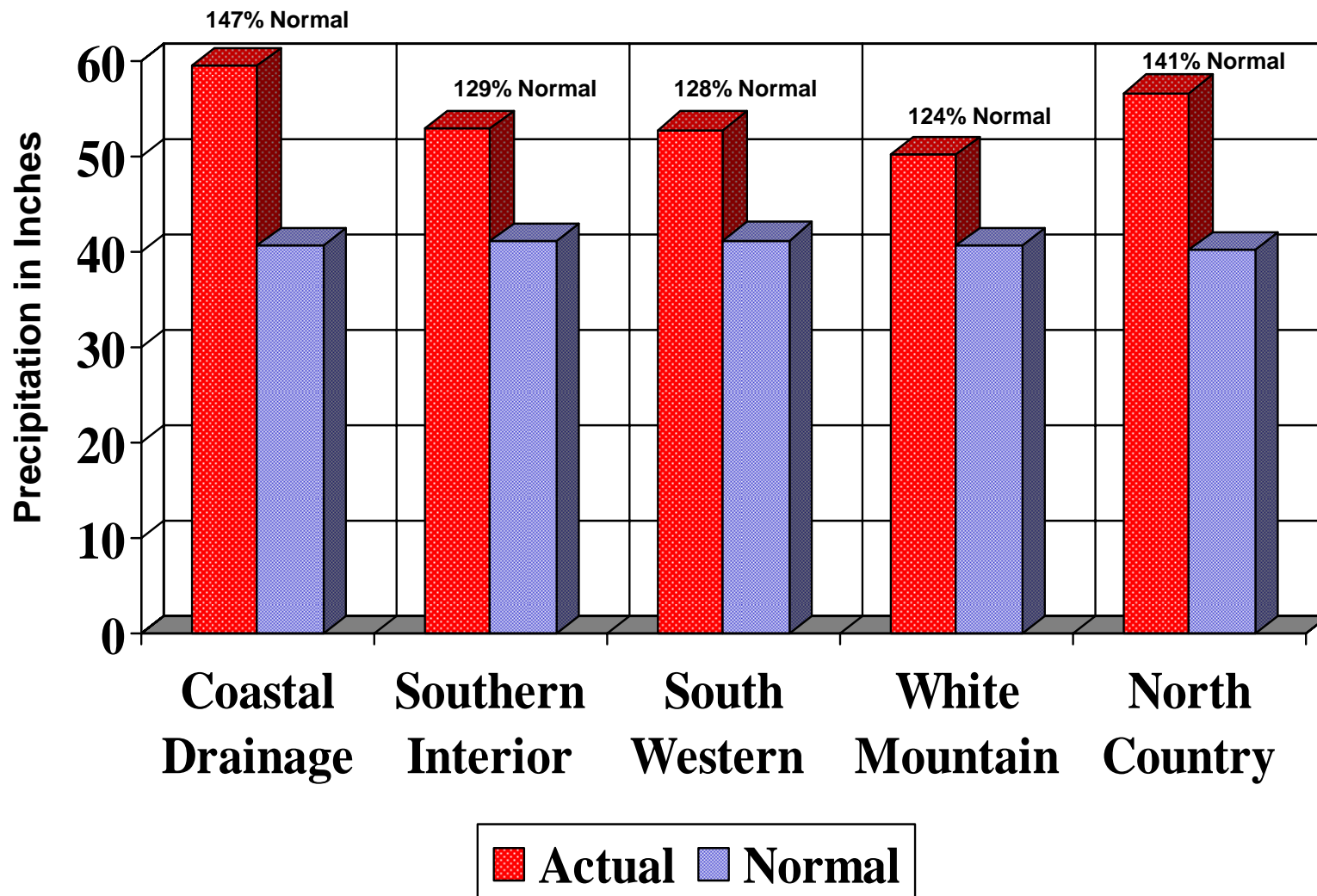
Source: Northeast River Forecast Center, NH Des Dam Bureau

**P.O. Box 95, 29 Hazen Drive, Concord, New Hampshire 03302-0095**

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DES Web site: [www.des.nh.gov](http://www.des.nh.gov)

# TWELVE MONTH AGGREGATED PRECIPITATION DATA for N.H. DROUGHT MANAGEMENT AREAS from November 2004 through October 2005



# MONTHLY PRECIPITATION DATA FOR N.H COUNTIES



		2004		2005									
		NOV	DEC	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT
<u>Coastal drainage</u>													
STRAFFORD	actual	4.32	4.15	3.89	3.05	4.72	5.45	7.21	4.24	3.24	1.98	2.92	15.92
	normal	4.12	3.76	3.12	2.72	3.20	3.40	3.28	3.04	3.12	3.28	3.44	3.48
	deviation	0.20	0.39	0.77	0.33	1.52	2.05	3.93	1.20	0.12	-1.30	-0.52	12.44
ROCKINGHAM	actual	3.58	4.05	3.86	2.82	4.62	5.05	6.28	3.79	3.13	3.33	2.67	14.77
	normal	4.24	3.92	3.32	2.84	3.40	3.44	3.40	3.12	3.20	3.44	3.40	3.56
	deviation	-0.66	0.13	0.54	-0.02	1.22	1.61	2.88	0.67	-0.07	-0.11	-0.73	11.21
Average	actual	3.95	4.10	3.88	2.94	4.67	5.25	6.75	4.02	3.19	2.66	2.80	15.35
	normal	4.18	3.84	3.22	2.78	3.30	3.42	3.34	3.08	3.16	3.36	3.42	3.52
	deviation	-0.23	0.26	0.66	0.16	1.37	1.83	3.41	0.94	0.03	-0.71	-0.63	11.83
<u>Southern Interior</u>													
HILLSBOROUGH	actual	3.13	4.00	3.16	2.36	4.11	5.08	5.56	2.62	3.59	3.13	2.09	14.39
	normal	4.32	4.16	3.60	3.16	3.88	3.56	3.52	3.36	3.32	3.68	3.60	3.72
	deviation	-1.19	-0.16	-0.44	-0.80	0.23	1.52	2.04	-0.74	0.27	-0.55	-1.51	10.67
MERRIMACK	actual	2.97	4.06	3.10	2.70	3.72	5.16	5.06	3.87	3.64	2.52	3.18	15.05
	normal	4.00	3.92	3.16	2.84	3.40	3.36	3.36	3.20	3.28	3.44	3.36	3.44
	deviation	-1.03	0.14	-0.06	-0.14	0.32	1.80	1.70	0.67	0.36	-0.92	-0.18	11.61
BELKNAP	actual	2.81	3.48	2.45	2.27	2.53	4.69	5.05	4.46	3.08	2.38	3.47	13.71
	normal	3.80	3.48	2.92	2.44	2.92	3.24	3.28	3.16	3.44	3.28	3.36	3.28
	deviation	-0.99	0.00	-0.47	-0.17	-0.39	1.45	1.77	1.30	-0.36	-0.90	0.11	10.43
Average	actual	2.97	3.85	2.90	2.44	3.45	4.98	5.22	3.65	3.44	2.68	2.91	14.38
	normal	4.04	3.85	3.23	2.81	3.40	3.39	3.39	3.24	3.35	3.47	3.44	3.48
	deviation	-1.07	-0.01	-0.32	-0.37	0.05	1.59	1.84	0.41	0.09	-0.79	-0.53	10.90
<u>South Western</u>													
CHESHIRE	actual	2.41	3.60	2.10	1.95	3.98	4.68	3.99	5.34	5.05	2.99	2.86	15.86
	normal	3.84	3.76	3.28	2.80	3.48	3.40	3.44	3.44	3.28	3.68	3.52	3.36
	deviation	-1.43	-0.16	-1.18	-0.85	0.50	1.28	0.55	1.90	1.77	-0.69	-0.66	12.50
SULLIVAN	actual	3.13	3.55	2.53	2.19	3.06	4.49	3.66	3.73	2.62	3.73	2.92	15.20
	normal	3.84	3.72	3.12	2.80	3.36	3.44	3.56	3.36	3.32	3.64	3.44	3.48
	deviation	-0.71	-0.17	-0.59	-0.61	-0.30	1.05	0.10	0.37	-0.70	0.09	-0.52	11.72
Average	actual	2.77	3.58	2.32	2.07	3.52	4.59	3.83	4.54	3.84	3.36	2.89	15.53
	normal	3.84	3.74	3.20	2.80	3.42	3.42	3.50	3.40	3.30	3.66	3.48	3.42
	deviation	-1.07	-0.17	-0.89	-0.73	0.10	1.17	0.33	1.14	0.54	-0.30	-0.59	12.11
<u>White Mountain</u>													
GRAFTON	actual	3.23	3.37	2.37	1.97	2.53	3.78	3.97	5.42	4.00	4.76	3.85	10.74
	normal	3.76	3.64	2.92	2.60	3.04	3.24	3.56	3.48	3.84	3.64	3.48	3.48
	deviation	-0.53	-0.27	-0.55	-0.63	-0.51	0.54	0.41	1.94	0.16	1.12	0.37	7.26
CARROLL	actual	3.81	4.00	2.35	2.53	2.13	4.83	5.26	4.09	3.74	3.59	3.20	10.92
	normal	3.92	3.68	3.00	2.60	3.08	3.32	3.48	3.44	3.68	3.48	3.44	3.52
	deviation	-0.11	0.32	-0.65	-0.07	-0.95	1.51	1.78	0.65	0.06	0.11	-0.24	7.40
Average	actual	3.52	3.69	2.36	2.25	2.33	4.31	4.62	4.76	3.87	4.18	3.53	10.83
	normal	3.84	3.66	2.96	2.60	3.06	3.28	3.52	3.46	3.76	3.56	3.46	3.50
	deviation	-0.32	0.03	-0.60	-0.35	-0.73	1.03	1.10	1.30	0.11	0.62	0.07	7.33
<u>North Country</u>													
COOS	actual	4.25	4.03	2.61	2.31	3.14	4.45	4.82	5.59	4.99	4.75	4.78	10.90
	normal	3.48	3.44	2.72	2.48	2.76	3.04	3.32	4.16	3.96	4.00	3.40	3.48
	deviation	0.77	0.59	-0.11	-0.17	0.38	1.41	1.50	1.43	1.03	0.75	1.38	7.42

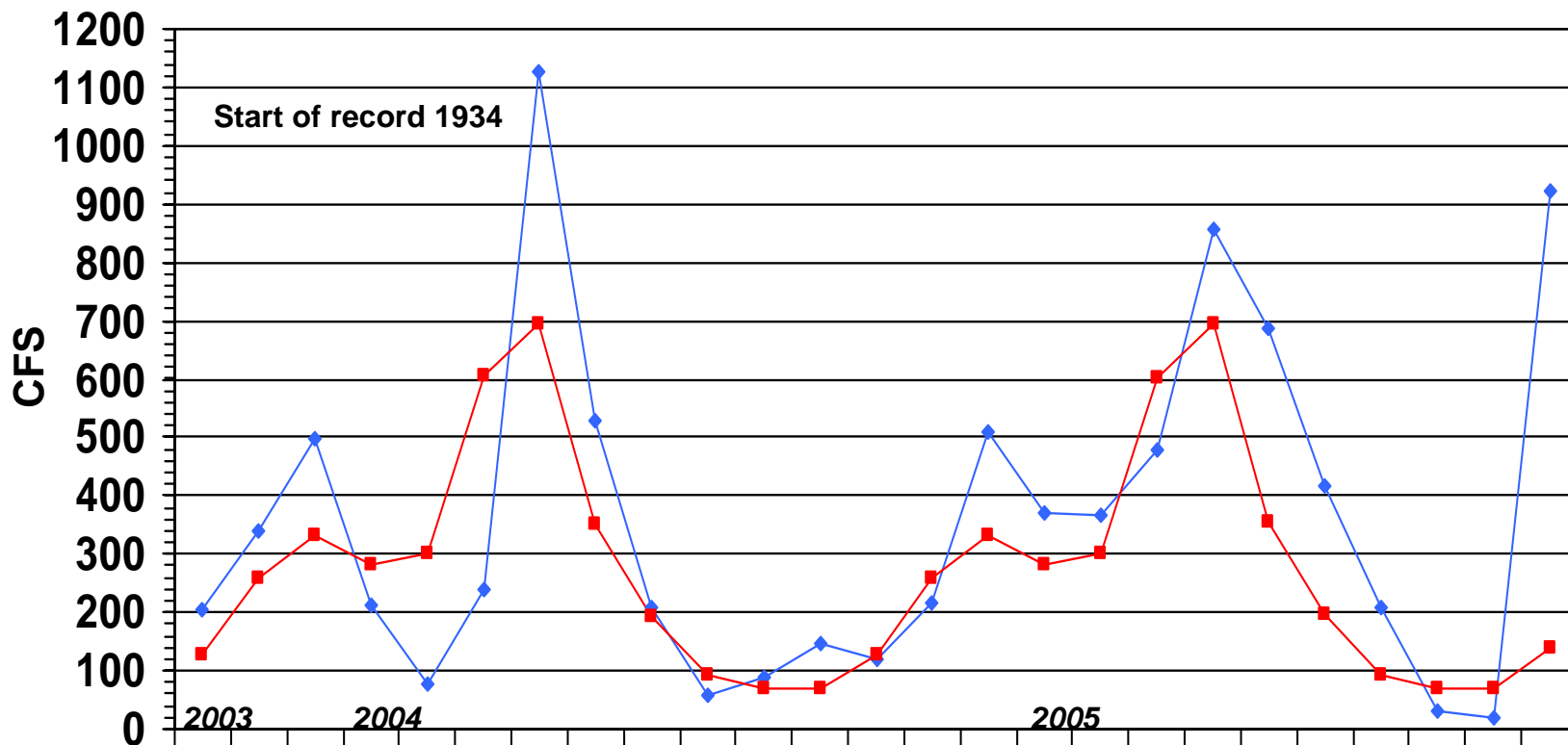
Source: Northeast River Forecast Center, NH DES Dam Bureau

# LAMPREY RIVER near NEWMARKET NH

## Gage# 01073500



### MONTHLY MEAN FLOW COMPARED TO MEAN OF MONTHLY FLOWS



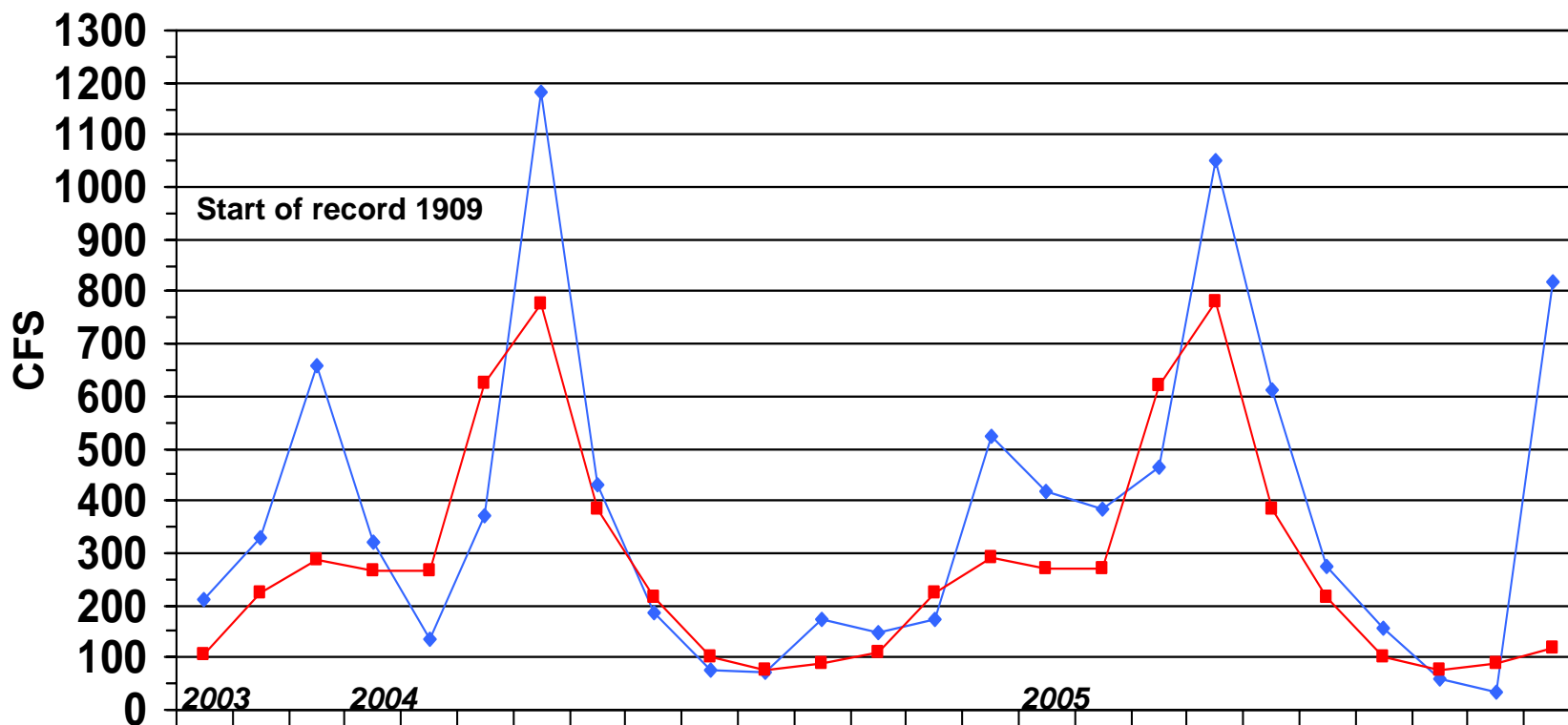
◆ Monthly Mean Flow	206	338	498	212	79	241	1125	529	207	56	89	145	119	217	508	369	368	477	857	685	415	209	29	18	923
■ Mean of Monthly Flow s	128	260	330	281	300	605	694	351	192	91	71	71	128	259	333	282	301	603	696	355	195	93	70	70	139
% of Normal	161%	130%	151%	75%	26%	40%	162%	151%	108%	62%	125%	204%	93%	84%	153%	131%	123%	79%	123%	193%	213%	255%	41%	26%	664%

# SOUHEGAN RIVER at MERRIMACK NH

Gage# 01094000



## MONTHLY MEAN FLOW COMPARED TO MEAN OF MONTHLY FLOWS

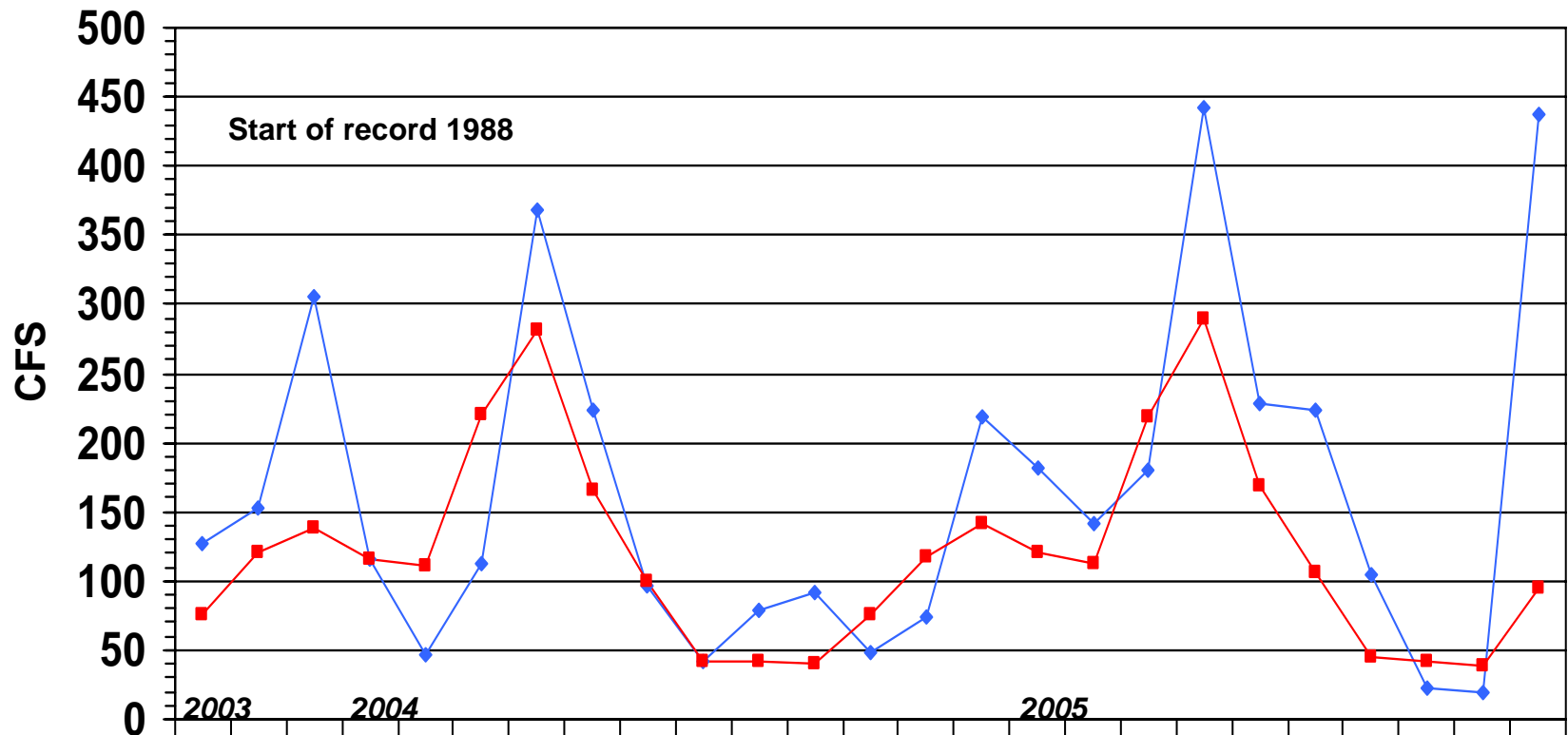


	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct
Monthly Mean Flow	209	330	657	319	137	371	1181	430	184	76	71	173	146	171	525	419	386	464	1049	613	276	158	61	32	820
Mean of Monthly Flow s	107	225	288	268	268	624	776	382	214	100	78	89	108	224	292	270	270	622	780	385	215	101	78	88	118
% of Normal	195%	147%	228%	119%	51%	59%	152%	112%	81%	65%	79%	194%	135%	76%	180%	155%	143%	75%	134%	159%	128%	156%	78%	36%	695%

# SOUCCOOK RIVER at PEMBROKE ROAD near CONCORD NH, Gage# 01089100



## MONTHLY MEAN FLOW COMPARED TO MEAN OF MONTHLY FLOWS



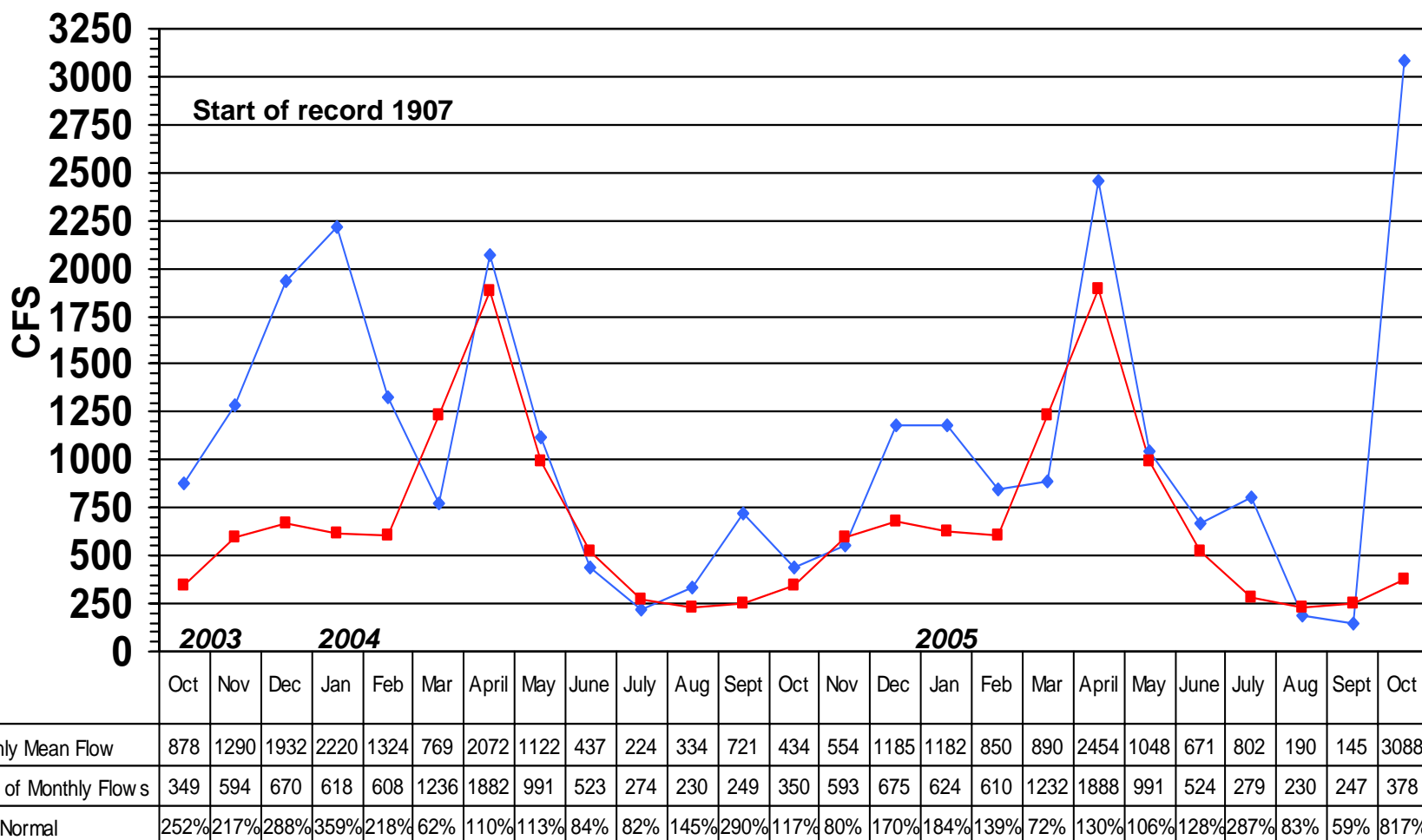
	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct
Monthly Mean Flow	127	153	306	115	47	112	368	224	97	42	79	91	49	74	218	181	141	180	442	229	224	104	22	19	438
Mean of Monthly Flow s	76	120	138	116	111	221	281	165	99	41	42	40	75	117	142	120	113	219	290	169	106	45	41	39	95
% of Normal	166%	128%	222%	99%	42%	51%	133%	136%	98%	102%	188%	228%	65%	63%	149%	143%	125%	84%	152%	137%	115%	231%	54%	49%	461%

# ASHUELOT RIVER at HINSDALE NH

Gage# 01161000



## MONTHLY MEAN FLOW COMPARED TO MEAN OF MONTHLY FLOWS

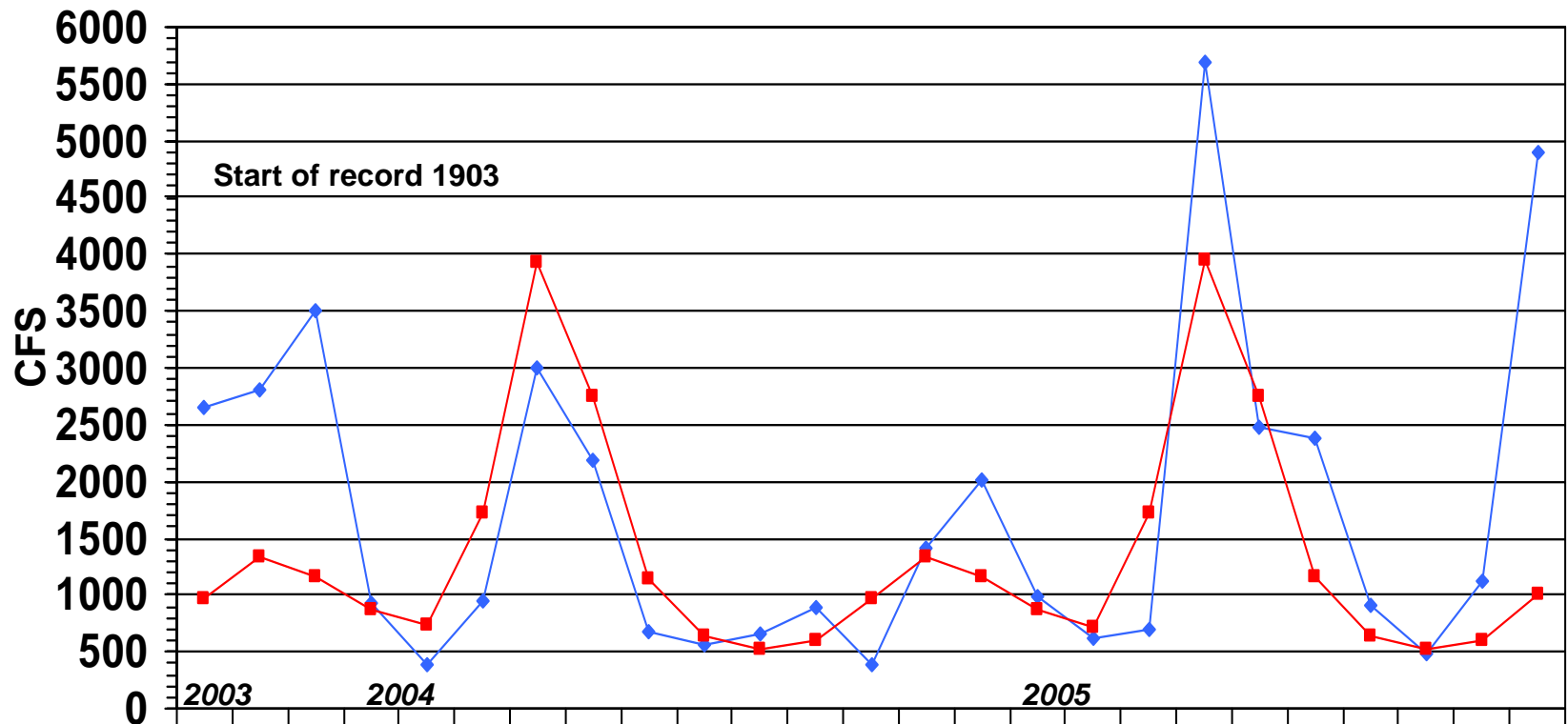


# PEMIGEWASSET RIVER at PLYMOUTH NH

Gage# 01076500



## MONTHLY MEAN FLOW COMPARED TO MEAN OF MONTHLY FLOWS



	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct
Monthly Mean Flow	2644	2800	3495	936	380	949	3009	2191	681	563	654	890	393	1416	2014	986	614	702	5697	2472	2380	901	475	1114	4888
Mean of Monthly Flow s	970	1342	1152	869	726	1728	3924	2756	1147	634	515	598	964	1342	1161	870	725	1718	3941	2754	1159	637	514	603	1002
% of Normal	271%	209%	303%	108%	52%	55%	77%	79%	59%	89%	127%	149%	41%	106%	173%	113%	85%	41%	145%	90%	205%	142%	92%	185%	488%



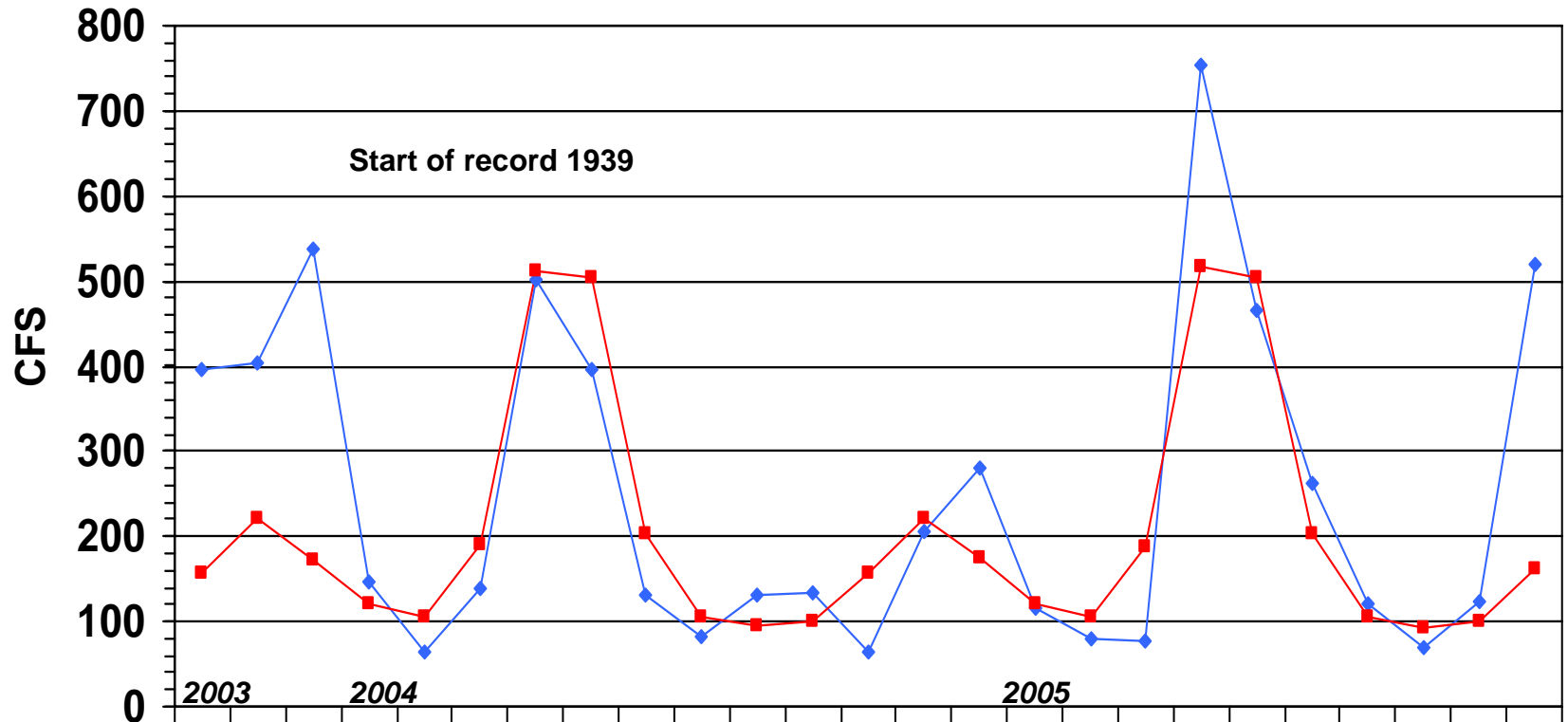
# AMMONOOSUC RIVER at BETHLEHEM JUNCTION NH

## Gage# 01137500



### MONTHLY MEAN FLOW COMPARED TO MEAN OF MONTHLY FLOWS

This station replaces gage# 01137000 which was discontinued by DES at the end of Sept 2004



	2003			2004			2005																		
	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct
Monthly Mean Flow	395	403	537	146	64	138	501	397	131	82	130	135	64	207	281	117	80	77	753	465	262	120	70	123	520
Mean of Monthly Flow s	158	221	172	120	105	190	513	503	203	105	94	100	157	221	174	120	105	188	516	503	204	105	93	100	162
% of Normal	250%	182%	312%	122%	61%	73%	98%	79%	65%	78%	138%	135%	41%	94%	161%	98%	76%	41%	146%	92%	128%	114%	75%	123%	321%

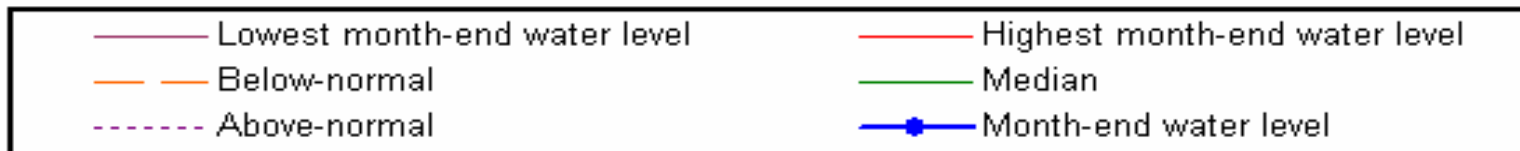
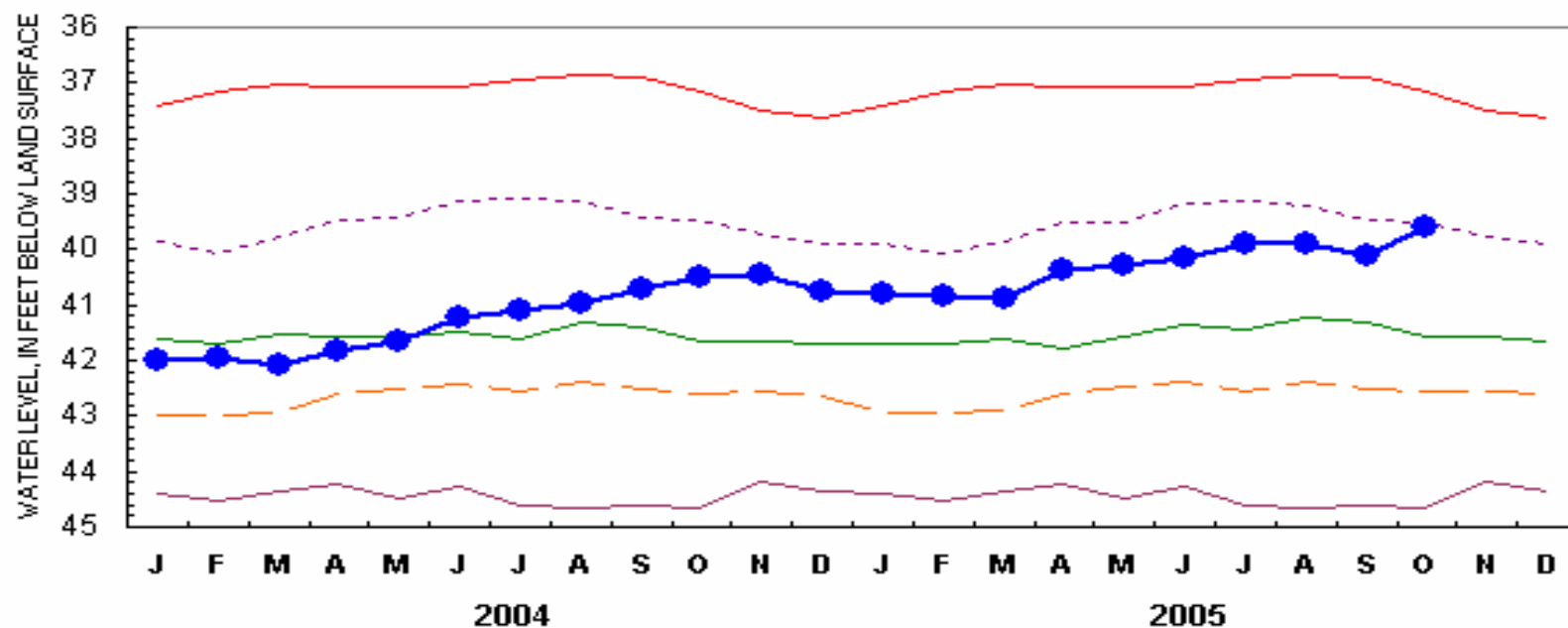
# New Hampshire Groundwater Levels for October 2005



WELL	START OF WATER LEVEL BELOW		NET CHANGE		NET CHANGE		DEPARTURE FROM		PERCENT OF	
	RECORD	SURFACE DATUM (ft)	IN ONE MONTH (ft)	IN ONE YEAR (ft)	MEDIAN	RANGE (ft)	MONTHLY MEDIAN (FT)	RANGE	STATUS	
ALBANY 14	1995	3.65	+3.34	+3.27	6.92	2.49	+3.27	131.3	ABOVE NORMAL	
ALBANY 15	1995	4.42	+4.60	+4.48	8.89	2.83	+4.47	158.0	ABOVE NORMAL	
BARNSTEAD 10	1995	1.99	+1.24	+1.06	3.10	1.08	+1.11	102.8	ABOVE NORMAL	
CAMPTON 34	1988	10.57	+3.22	+3.06	13.17	1.63	+2.60	159.5	ABOVE NORMAL	
COLEBROOK 73	1995	6.56	----	+1.43	7.61	1.06	1.05	"--.1	ABOVE NORMAL	
CONCORD 2	1963	39.59	+0.53	+0.89	41.58	4.43	+1.99	44.9	NORMAL	
CONCORD 4	1966	16.16	+2.26	+1.88	18.35	1.81	+2.19	121.0	ABOVE NORMAL	
DEERFIELD 46	1984	38.46	+0.50	+0.52	39.15	0.86	+0.69	80.2	ABOVE NORMAL	
ENFIELD 30	1990	1.81	+7.11	+7.09	8.02	5.12	+6.21	121.3	ABOVE NORMAL	
ERROL 1	1966	12.5	----	----	12.8	1.6	+0.20	15.2	ABOVE NORMAL	
FRANKLIN 1	1966	9.36	+2.87	+2.70	13.41	3.13	+4.05	129.4	ABOVE NORMAL	
GREENFIELD 75	1995	60.84	-0.34	+0.99	62.25	1.41	+1.41	100.0	ABOVE NORMAL	
HOOKSETT 5	1965	46.69	+2.86	+1.62	49.45	4.10	+2.76	67.3	ABOVE NORMAL	
KEENE 2	1963	2.20	+2.00	+0.91	4.09	3.52	+1.89	53.7	ABOVE NORMAL	
LANCASTER 1	1966	1.50	+0.60	+0.60	2.05	2.05	+0.55	26.8	ABOVE NORMAL	
LEE 1	1953	30.08	+1.27	+1.13	31.46	1.60	+1.38	86.3	ABOVE NORMAL	
LISBON 19	1990	11.61	+3.02	+2.95	14.07	1.52	+2.46	161.8	ABOVE NORMAL	
NASHUA 218	1964	26.67	+1.49	+1.76	28.72	1.70	+2.05	120.6	ABOVE NORMAL	
NEW DURHAM 53	1986	17.98	+2.04	+1.56	19.54	1.46	+1.56	106.8	ABOVE NORMAL	
NEW LONDON 1	1947	2.62	+8.80	+9.06	13.66	8.22	+11.04	134.3	ABOVE NORMAL	
NEWPORT 3	1995	2.82	+4.26	+3.77	6.49	1.91	+3.67	192.1	ABOVE NORMAL	
NEWPORT 6	1995	2.86	+4.31	+3.83	6.56	1.98	+3.70	186.9	ABOVE NORMAL	
OSSIPEE 38	1995	33.97	+1.64	+2.10	35.97	0.89	+2.00	224.7	ABOVE NORMAL	
SHELBURNE 2	1995	3.88	+1.78	+1.25	4.88	4.58	+1.00	21.8	NORMAL	
WARNER 1	1965	27.78	+2.67	+3.29	31.60	1.70	+3.82	224.7	ABOVE NORMAL	

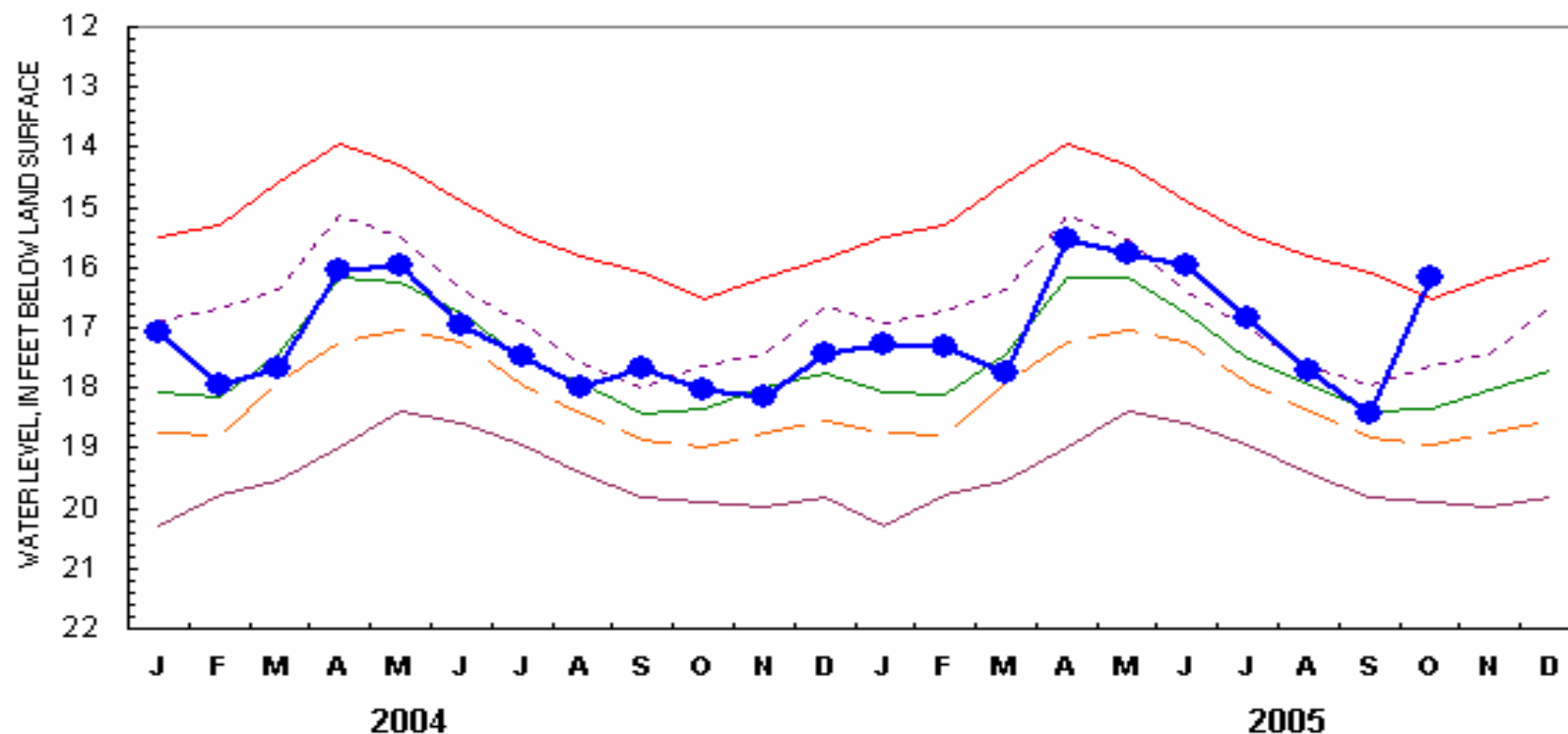
Source: USGS, NH DES

# CONCORD 2 (CVW 2) NH (August 1963 - May 1965, August 1967 - )



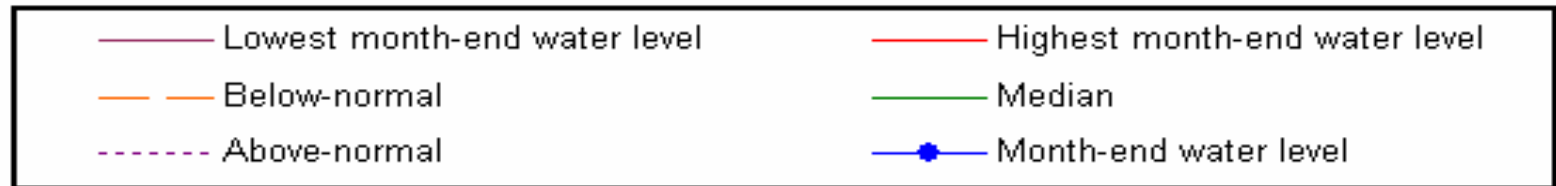
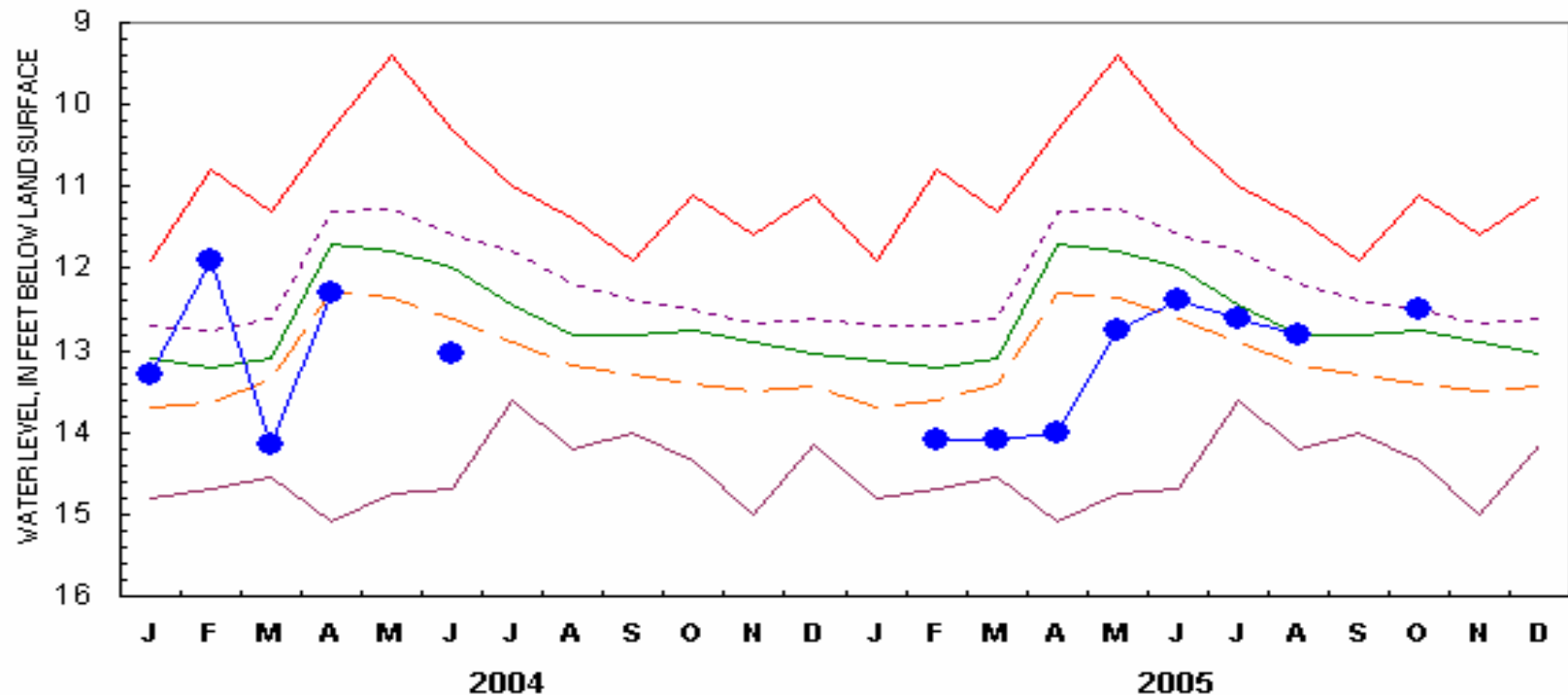
Highest and lowest month-end water levels are monthly extremes for the period of record  
 Above-normal is the 75% quartile (25% of month-end water levels were higher)  
 Below-normal is the 25% quartile (25% of month-end water levels were lower)  
 Median is the 50% quartile (half of the month-end water levels were higher or lower)  
 Water levels after September 2003 are provisional and subject to revision.

# CONCORD 4 (CVW 4) NH (November 1966 - )



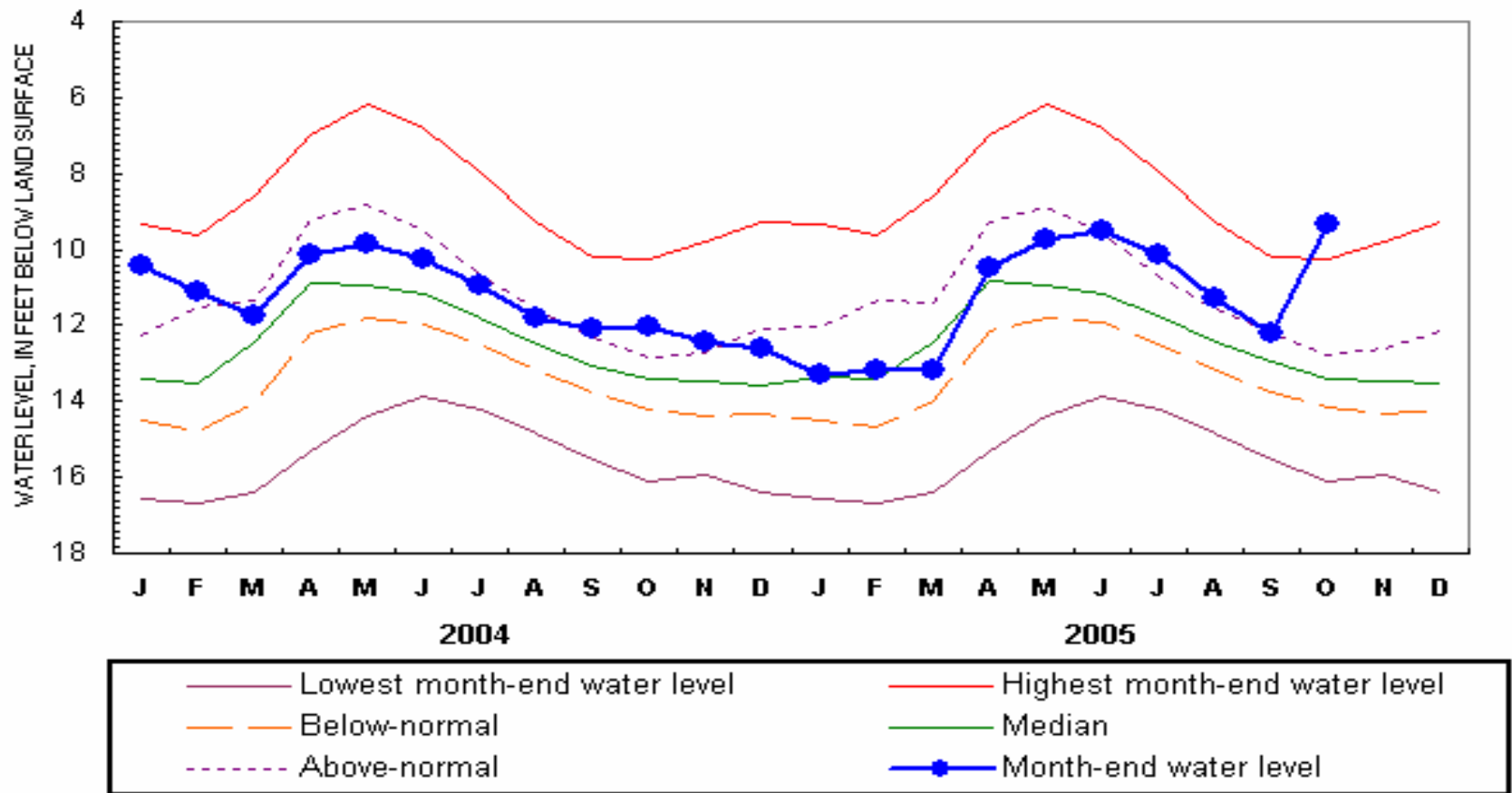
Highest and lowest month-end water levels are monthly extremes for the period of record  
 Above-normal is the 75% quartile (25% of month-end water levels were higher)  
 Below-normal is the 25% quartile (25% of month-end water levels were lower)  
 Median is the 50% quartile (half of the month-end water levels were higher or lower)  
 Water levels after September 2003 are provisional and subject to revision.

# ERROL 1 (ETW 1) NH (November 1966 - )

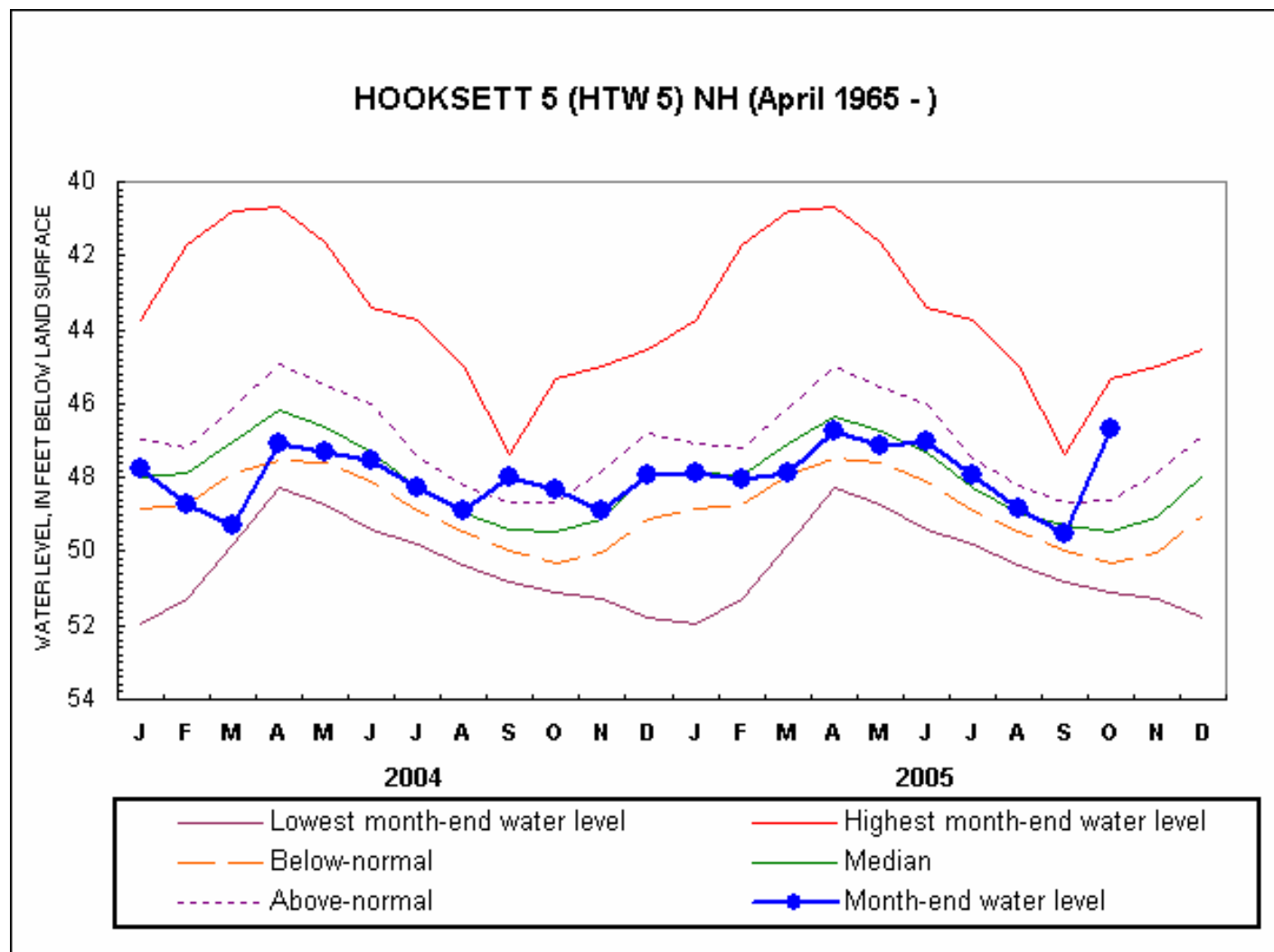


Highest and lowest month-end water levels are monthly extremes for the period of record  
 Above-normal is the 75% quartile (25% of month-end water levels were higher)  
 Below-normal is the 25% quartile (25% of month-end water levels were lower)  
 Median is the 50% quartile (half of the month-end water levels were higher or lower)  
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# FRANKLIN 1 (FKW 1) NH (October 1966 - )

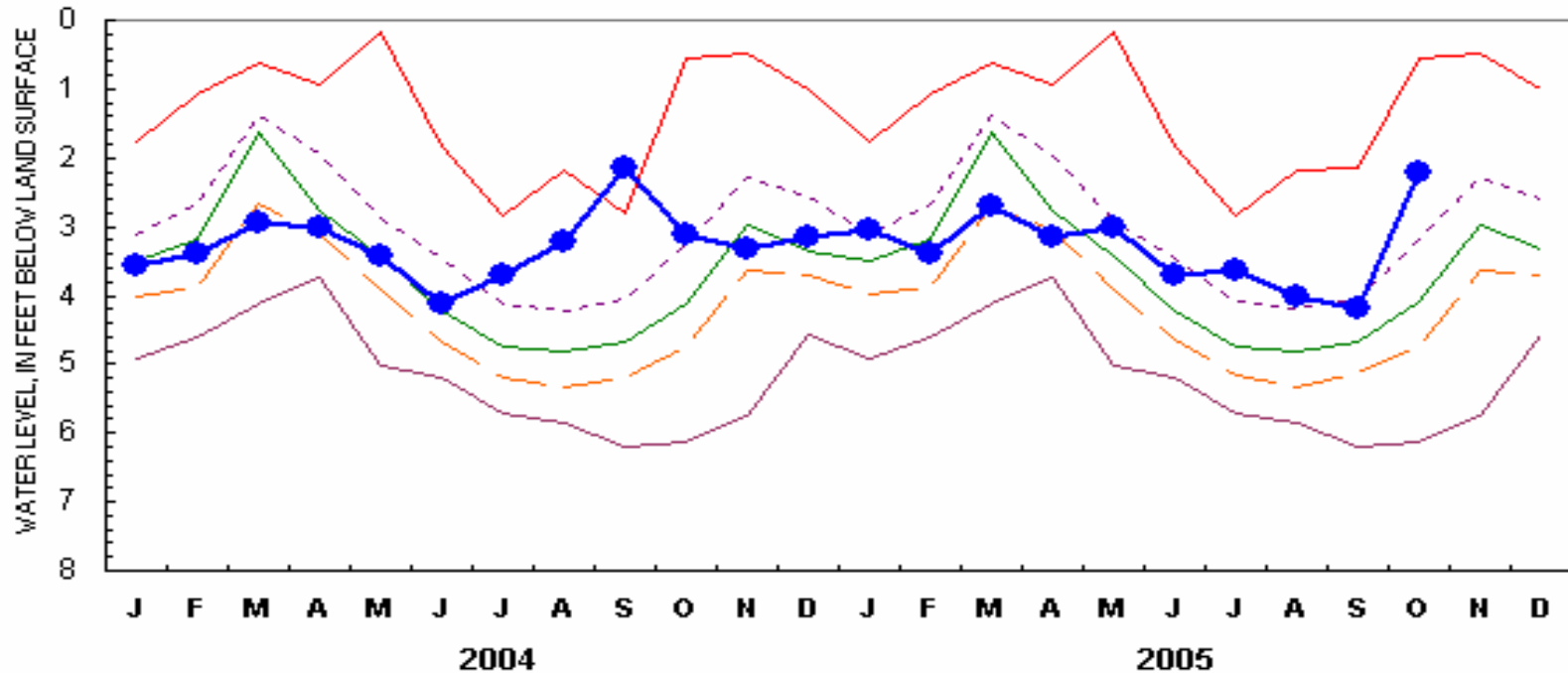


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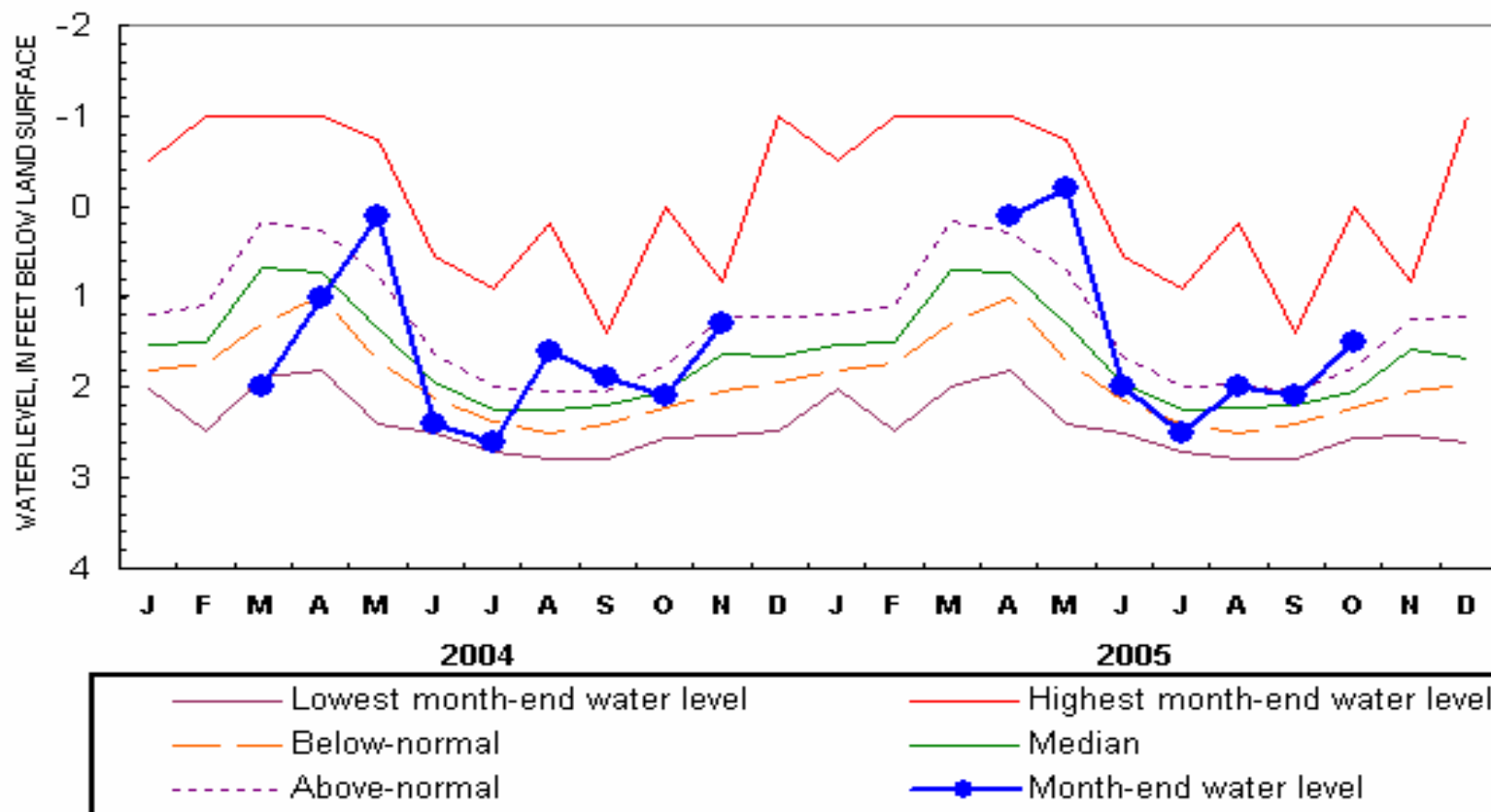
# KEENE 2 (KEW 2) NH (August 1963 - )



Highest and lowest month-end water levels are monthly extremes for the period of record  
 Above-normal is the 75% quartile (25% of month-end water levels were higher)  
 Below-normal is the 25% quartile (25% of month-end water levels were lower)  
 Median is the 50% quartile (half of the month-end water levels were higher or lower)  
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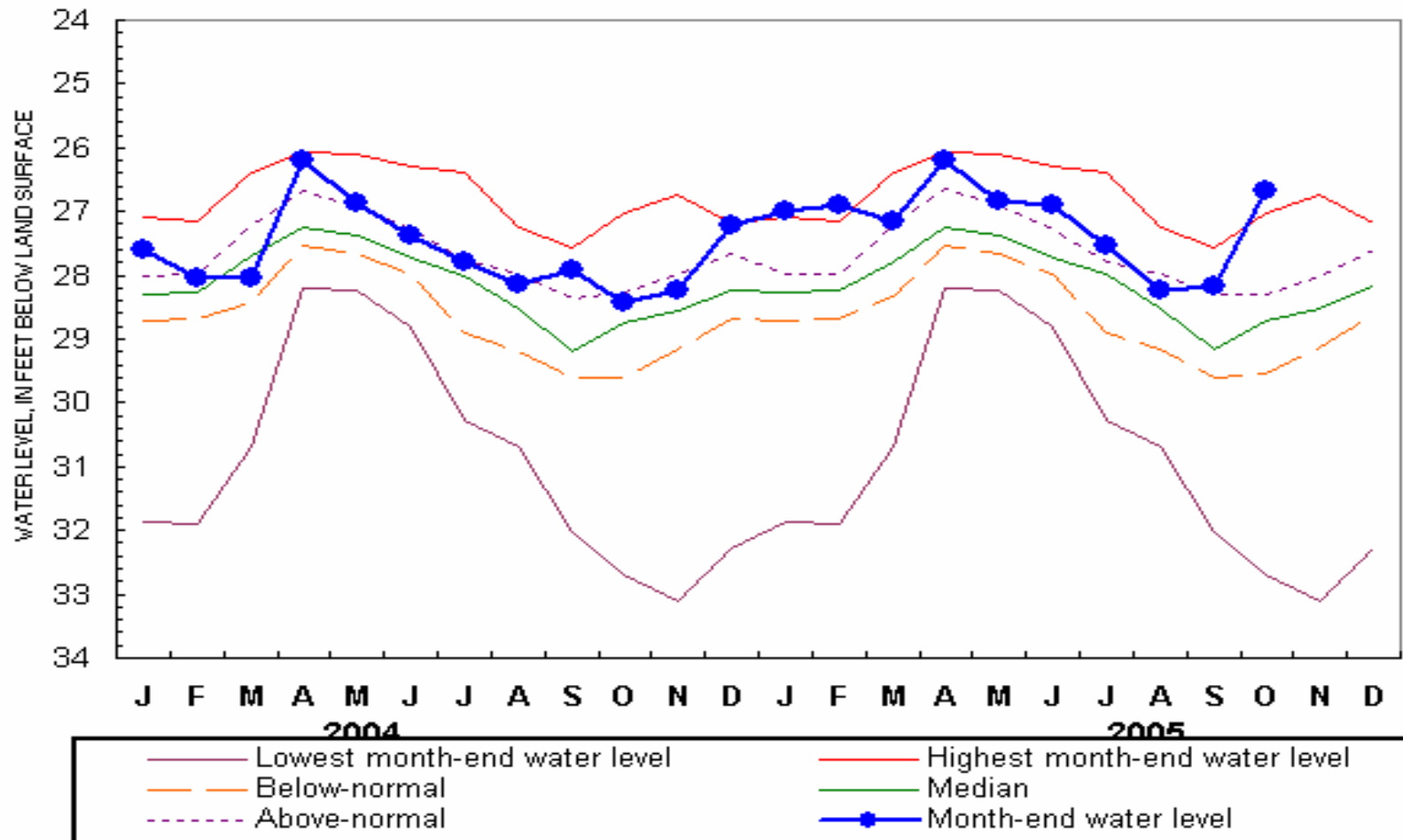
# LANCASTER 1 (LCW 1) NH (November 1966 - May 1980, April 1981)



Highest and lowest month-end water levels are monthly extremes for the period of record  
 Above-normal is the 75% quartile (25% of month-end water levels were higher)  
 Below-normal is the 25% quartile (25% of month-end water levels were lower)  
 Median is the 50% quartile (half of the month-end water levels were higher or lower)  
 Water levels after September 2003 are provisional and subject to revision.

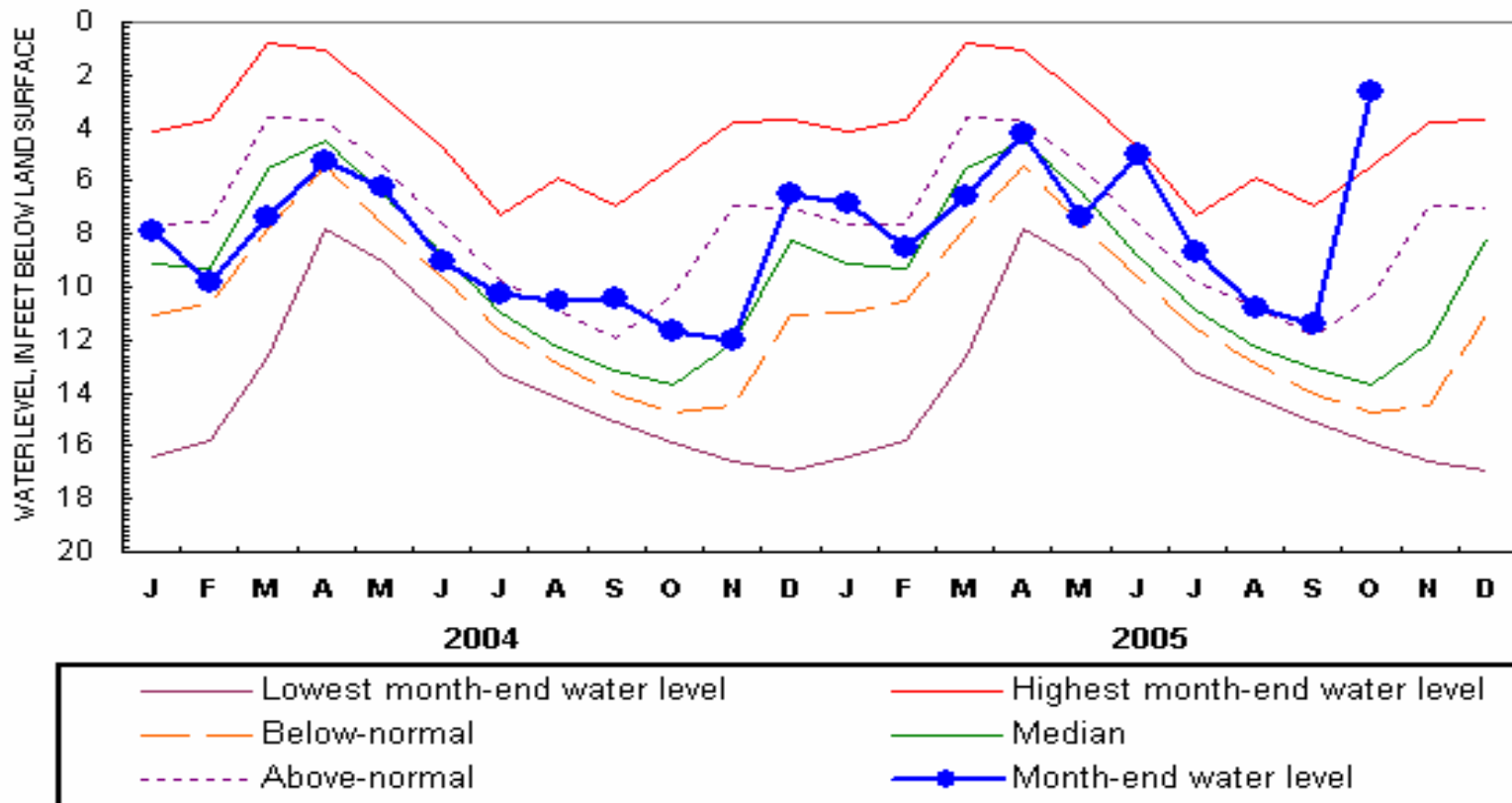


# NASHUA 218 (NAW 218) NH (October 1964 - )



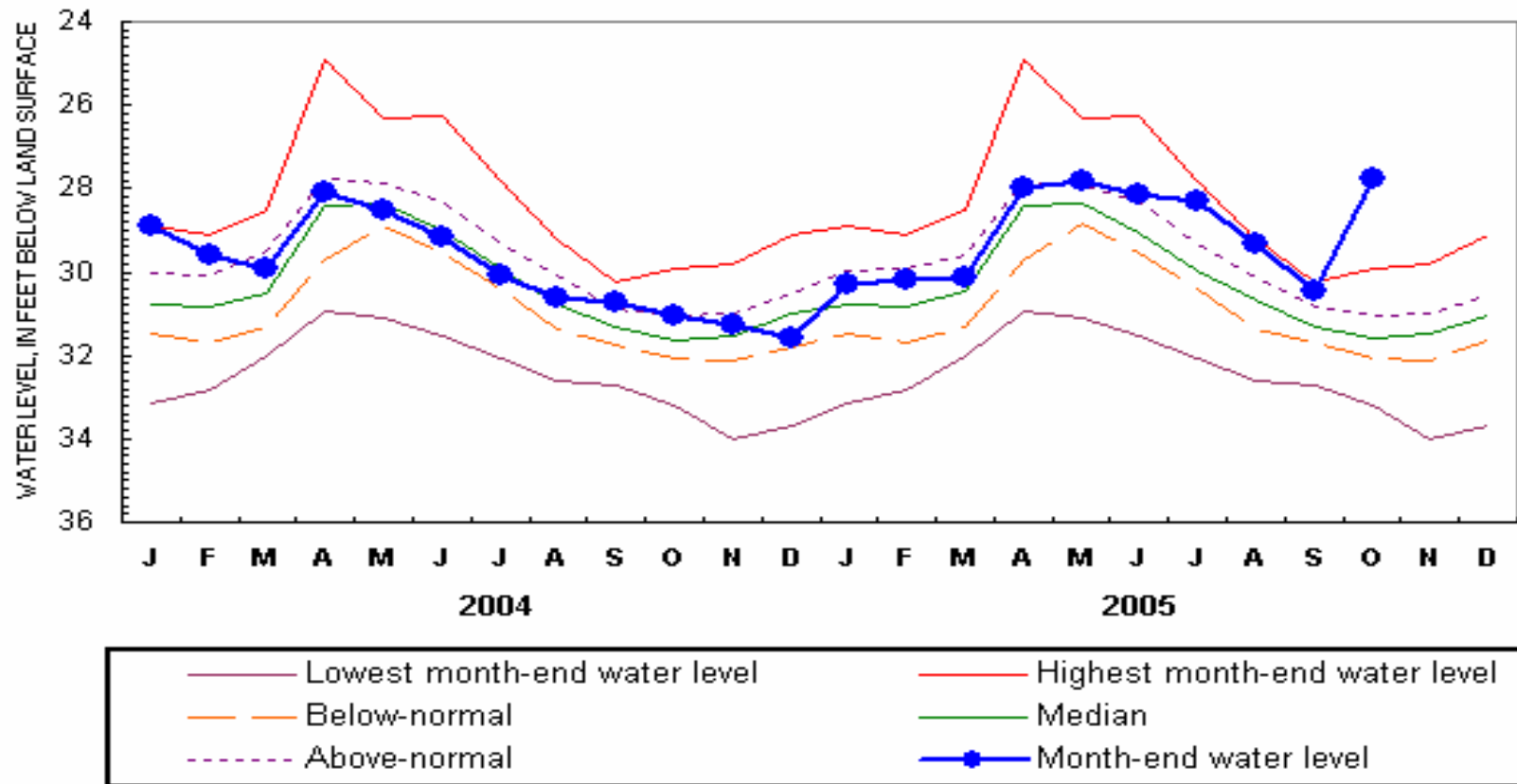
Highest and lowest month-end water levels are monthly extremes for the period of record  
 Above-normal is the 75% quartile (25% of month-end water levels were higher)  
 Below-normal is the 25% quartile (25% of month-end water levels were lower)  
 Median is the 50% quartile (half of the month-end water levels were higher or lower)  
 Water levels after September 2003 are provisional and subject to revision.

# NEW LONDON 1 (NLW 1) NH (October 1947 - )



Highest and lowest month-end water levels are monthly extremes for the period of record  
 Above-normal is the 75% quartile (25% of month-end water levels were higher)  
 Below-normal is the 25% quartile (25% of month-end water levels were lower)  
 Median is the 50% quartile (half of the month-end water levels were higher or lower)  
 Water levels after September 2003 are provisional and subject to revision.

# WARNER 1 (WCW 1) NH (December 1965 - )

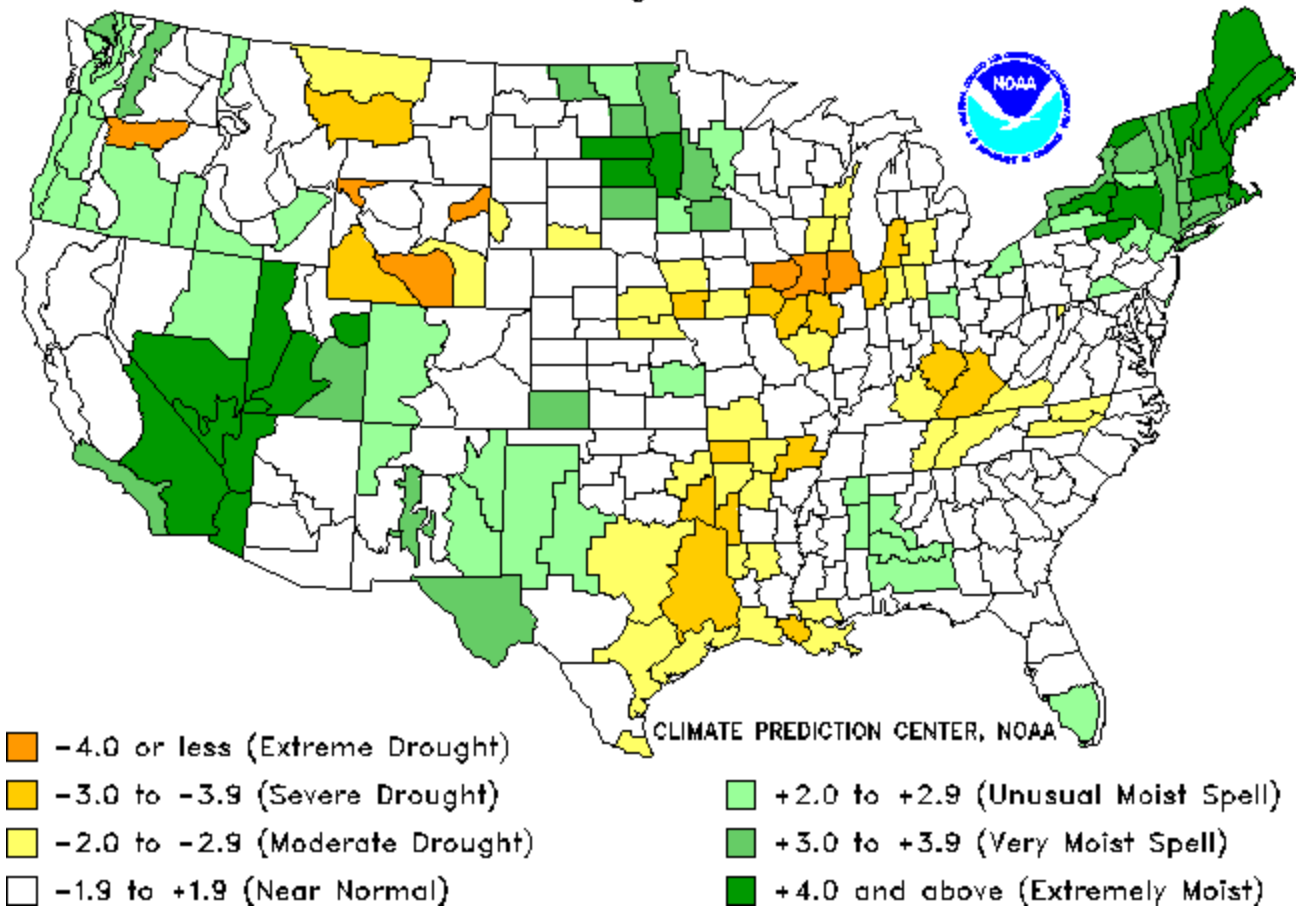


Highest and lowest month-end water levels are monthly extremes for the period of record  
 Above-normal is the 75% quartile (25% of month-end water levels were higher)  
 Below-normal is the 25% quartile (25% of month-end water levels were lower)  
 Median is the 50% quartile (half of the month-end water levels were higher or lower)  
 Water levels after September 2003 are provisional and subject to revision.

## Drought Severity Index by Division

Weekly Value for Period Ending 12 NOV 2005

Long Term Palmer



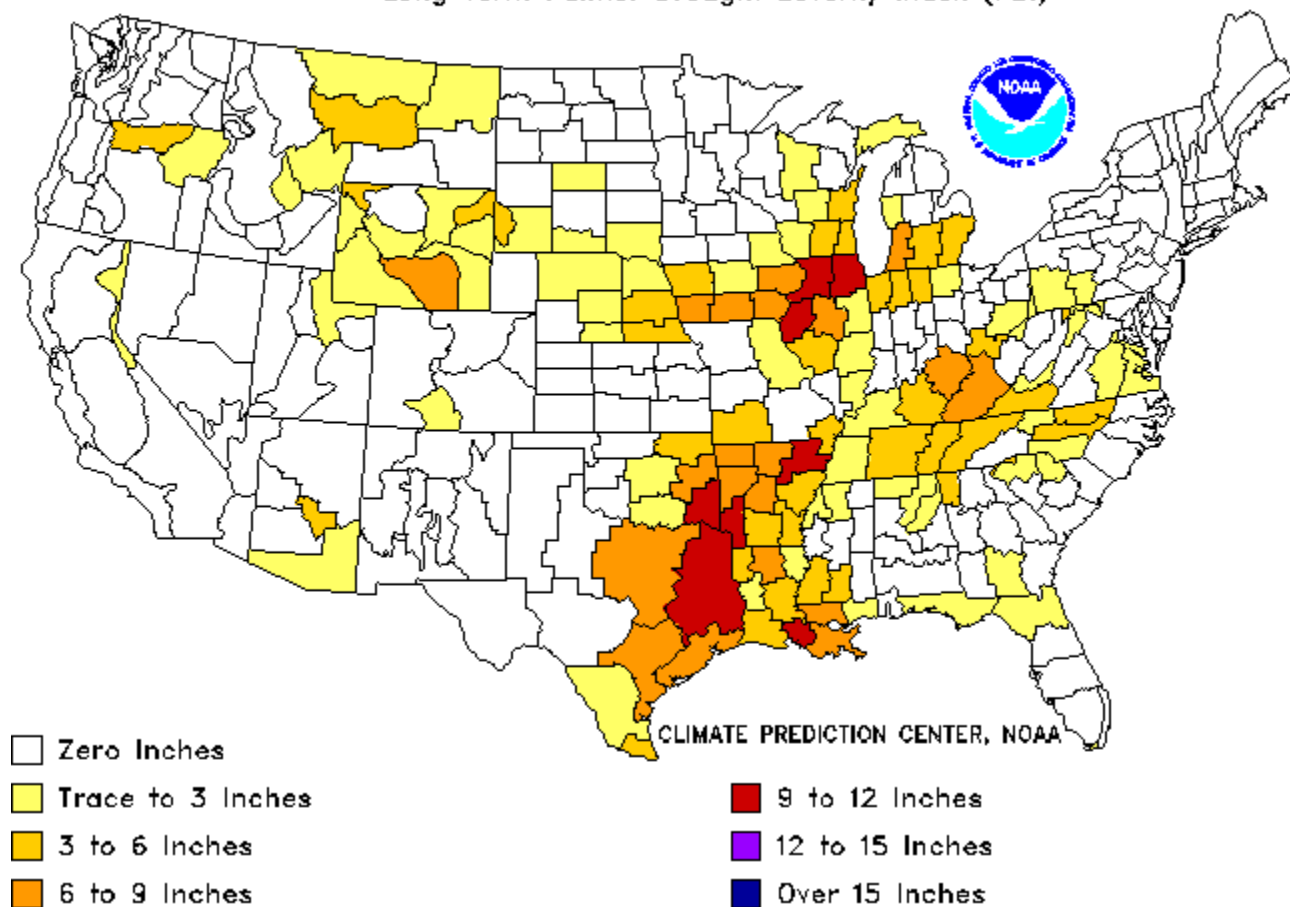
## THE PALMER DROUGHT SEVERITY INDEX

The Palmer Index uses temperature and rainfall information in a formula to determine dryness. The advantage of the Palmer Index is that it is standardized to local climate.

## Additional Precip. Needed (In.) to Bring PDI to -0.5

Weekly Value for Period Ending 12 NOV 2005

Long Term Palmer Drought Severity Index (PDI)



This is the amount of rainfall required in a week's time to bring the index back to zero inches required.